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ABSTRACT

This study provides insight into the basic skills level of geographic place of a selected sample of elementary (N=104) and secondary (N=50) preservice teachers. The data indicate a limited ability of the sample to recall correctly the names and identify the location of continents and oceans. Although the scores of secondary and elementary preservice teachers concerning knowledge of continents were similar, secondary preservice teachers slightly out-performed the elementary group in knowledge of oceans. (JD)

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Continents and Oceans: Determining the Knowledge Level of Selected Preservice Teachers

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ABSTRACT

Continents and Oceans: Determining the Knowledge Level of Selected Preservice Teachers

The issue of the dismal level of knowledge of U.S. citizens in terms of knowledge of geographic concepts has been well publicized. Many of the studies used to arrive at this conclusion measured sophisticated geographic concepts and newsworthy out-of-the-way places. The purpose of this study was to determine basic place knowledge of preservice teachers. Basic place is defined as continents and oceans. The subjects of the study consisted of 154 preservice teachers; 104 elementary and 50 secondary. The instrument used was a black and white flat oval projection map with national boundaries. Students were expected to recognize and recall the seven continents and four oceans.

Results indicate that no continent or ocean was identified by all students in the sample. Scores of elementary and secondary preservice teachers concerning knowledge of continents were almost identical; however there was a slight difference in the knowledge level of the two groups in their recall of oceans. The secondary group consistently out performed the elementary group. The skill deficiencies identified in this study reinforce previous studies of preservice teachers.

KNOWLEDGE OF CONTINENTS AND OCEANS: A COMPARISON OF SELECTED ELEMENTARY AND SECONDARY PRESERVICE TEACHERS

The literature indicates that preservice teachers share the same deficiencies of geographic place as students from other majors. In a 1960 study, Erich found that education majors when compared to others were equally weak in geographical skills. Garrett's 1984 study concluded that community college students, including education majors, were functionally illiterate in geographical concepts and skills. In yet another study of preservice elementary majors, Diem (1982) measured the social studies content knowledge of preservice teachers and found weaknesses in students' knowledge of geography. Studies by Stjernberg (1974) and Garvida (1977) reinforce previous findings in their conclusion that preservice teachers were ill prepared to teach map skills. Herman, Hawkins and Berryman (1985), in a study of elementary and secondary preservice teachers, found that a majority of students were unable to locate countries that were commonly in the news.

Method of Study

Because preservice teachers are indicative of the future level of knowledge of classroom teachers, this study was designed to determine knowledge of the most basic geographic place -- that of continents and oceans. The subjects of the study were 154 preservice teachers; 104 elementary and 50 secondary students. All were enrolled in professional education courses at the junior or senior level and all had completed requirements that allowed them to be admitted formally to schools of education. Students in early childhood and elementary education were treated as one category and all secondary education majors treated as a second category.

The instrument used was a black and white flat oval projection map with national boundaries as the only geographic feature. The map was centered on a

8 1/2 x 11 inch sheet of paper, and was large enough to clearly identify the information sought. Numbers 1 - 11 were typed on the map. An answer sheet numbered from 1 - 11 was provided to each subject together with the numbered map. The students were expected to recognize and record the seven continents and four oceans.

Findings of Study

Descriptive data in Table 1 indicate that no continent or ocean was identified by all students in the sample.

Table I
Preservice Student Knowledge of Continents and Oceans

Continents	Sec. Ed. N = 50		Elem. Ed N = 104		Total N = 154	
	F	%	F	%	F	%
North America	46	92	92	88	138	90
South America	47	94	96	92	143	93
Africa	42	84	87	84	129	84
Europe	35	70	74	71	109	71
Asia	28	56	58	56	86	56
Australia	33	66	73	70	106	69
Antarctica	26	52	53	51	79	51
Oceans						
Atlantic Ocean	37	74	49	47	86	56
Arctic Ocean	24	48	32	31	56	36
Indian Ocean	27	54	39	38	65	42
Pacific Ocean	30	60	42	40	72	47

The continent of South America was correctly identified by more students than the continent of North America; 93% identified South America and 90% identified North America. Of the 93% who identified South America 94% were secondary majors and 92% were elementary majors. Of the 90% who identified North America correctly, 92% were secondary majors and 88% were elementary majors.

Africa was recognized by 84% with an equal number of secondary and elementary majors. Europe, Asia and Antarctica were also recognized almost equally by the two groups; with 71% of the sample identifying Europe, 56% of the sample identifying Asia and 51% of the sample identifying Antarctica. There was a slight difference between the two groups concerning Australia; 70% of the secondary students and 66% of the elementary students correctly identified the continent.

The greatest difference in the two groups was the ability to identify the Atlantic and Pacific Oceans. Of the sample 74% of secondary majors recognized the Atlantic Ocean and 47% of the elementary students were able to do so. The Pacific Ocean was recognized by 60% of the secondary students and by 40% of the elementary students. Secondary students also out-scored the elementary students in recognizing the Arctic and Indian Oceans; 48% to 31% recognized the Arctic Ocean and 54% to 38% recognized the Indian Ocean.

Overall, there was little difference in knowledge of continents between the secondary and elementary preservice group. Of the total group 10% were unable to recognize the continent on which they live; 16% did not recognize Africa; approximately 30% did not recognize Europe and Australia; 44% did not recognize Asia and 49% did not recognize Antarctica.

The world's oceans were more easily recognized by secondary preservice students than by elementary preservice students. Of the total sample, 44%

could not identify the Atlantic Ocean, 53% could not identify the Pacific Ocean, 58% could not identify the Indian Ocean and 64% could not identify the Arctic Ocean.

Discussion of the Study

This study provides insight into the basic skills level of geographic place of a selected sample of preservice teachers both secondary and elementary. The data indicate a limited ability of the specific sample to correctly recall the names and identify the location of continents and oceans. Although the scores of secondary and elementary preservice teachers concerning knowledge of continents were similar, secondary preservice teachers slightly out performed the elementary group in knowledge of oceans.

This study reinforces previous studies that indicate skill deficiencies of geographic place among preservice teachers. The researchers found that the group surveyed are limited in basic geographic place skills. If the surveyed group is typical of other preservice teachers, it raises doubts about their ability to prepare students with appropriate geographic knowledge and skills.

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